west virginia department of environmental protection

Division of Air Quality
601 57th Street SE
Charleston, WV 25304
Phone (304) 926-0475 • FAX: (304) 926-0479

Earl Ray Tomblin, Governor
Randy C. Huffman, Cabinet Secretary
www.dep.wv.gov

# ENGINEERING EVALUATION / FACT SHEET

## BACKGROUND INFORMATION

| | |
|---|---|
| Application No.: | R13-3030A |
| Plant ID No.: | 081-00181 |
| Applicant: | CNX Gas Company, LLC |
| Facility Name: | Rowland Land #303 |
| Location: | Dameron, Raleigh County |
| NAICS Code: | 21111 |
| Application Type: | Modification |
| Received Date: | July 22, 2014 |
| Engineer Assigned: | Laura Jennings |
| Fee Amount: | $3,500 |
| Date Received: | July 25, 2014 |
| Complete Date: | October 20, 2014 |
| Due Date: | January 18, 2015 |
| Applicant Ad Date: | July 21, 2014 |
| Newspaper: | *The Register-Herald* |
| UTM's: | Easting: 468.481 km Northing: 4191.932 km Zone: 17 |
| Description: | Replacement of the onsite generator. Removing the previous Generac QT060 Generator and replacing it with an Olympian G30F3 Generator Set. |

## DESCRIPTION OF PROCESS

The Rowland 303B Compressor Station is an existing facility that operates under permit R13-3030.

Natural gas enters the facility via a gathering pipeline that collects field gas from area wells as well as from an onsite well. The gas pressure is boosted onsite using a Caterpillar G3304NA [1S] natural gas-fired compressor. This [1S] 95 Hp compressor was installed in 2013 under the R13-3030 permit approved on April 29, 2013. The gas pressure is boosted from 0.5 psig to 70 psig and sent off site.

The proposed Olympia G30F3 generated powered by a 59.4 Hp, 4.2L Ford ESG-642 [3S] natural gas-fired engine is proposed to replace the 94 Hp, 3.9 L Generac QT060 generator installed in 2007. The proposed new generator will continue to be used for supplying prime

power for down-hole, dewatering pumps in the natural gas well.

Although the subject of this proposed modification is solely the generator replacement, the compressor engine is noted above to define the general processes conducted at the site. The site also utilizes two 210 bbl produced water storage vessels and two 500 gal lube oil tanks, all of which were installed in 2007 and are included in the current R13 permit.

Installation and Startup Schedule:

The replacement Olympia G30F3 Generator Set will be installed as soon as the modified permit is issued and will begin operation immediately after installation. Prior to receiving the modified permit, the facility will continue to operate per the requirements of the existing permit.

**Emission Units Table:**

| Emission Unit ID | Emission Point ID | Emission Unit Description | Year Installed/ Modified | Design Capacity | Type and Date of Change | Control Device |
|---|---|---|---|---|---|---|
| 3S | 3E | Electrical Generator Ford, (Model ESG-642) | 2014 | 59.4 HP | New | N/A |
| 2S | 2E | Electrical Generator Generac QT060 | 2012 | 94 HP | Removal | N/A |

SITE INSPECTION

A full on-site inspection was conducted by James Jarrett of DAQ's Compliance and Enforcement Section on June 24, 2014. At the time of the inspection, there was an issue with the CO emission limit established under General Permit G30-D115A and the facility was found to be out of compliance. Permit R13-3030 that was issued April 29, 2013 replaced and superceded G30-D115A.

A site inspection is not required for this modification application.

Directions to the facility:
Take County Rout 1/8 to Workman's Creek Road. Go 2.8 miles to Rowland 303B Compressor Station on the left.

ESTIMATE OF EMISSIONS BY REVIEWING ENGINEER

Manufacturer's Data was used to calculate the potential emissions of NOX, CO, and VOC. AP-42 emission factors were used to calculate the potential emissions for SO2, PM10, PM2.5, Formaldehyde, and other HAPs. Greenhouse Gas emissions were calculated using emission factors from 40 CFR 98, Subpart C, Table C-1 and C-2.

Emissions Summary Table:

| Emission Point ID | Emission Unit ID | Control Device ID | Regulated Pollutant | Maximum Potential Emissions | |
|---|---|---|---|---|---|
| | | | | lb/hr | tpy |
| 3E | 3S | N/A | PM | 0.0038 | 0.0165 |
| | | | SO2 | 0.0002 | 0.0010 |
| | | | NOX | 0.3929 | 1.7210 |
| | | | CO | 4.8459 | 21.2251 |
| | | | VOC | 0.3929 | 1.7210 |
| | | | CO2e | 46.3675 | 203.0897 |
| | | | Benzene | 0.0006 | 0.0027 |
| | | | Ethylbenzene | < 0.0001 | <0.0001 |
| | | | Toluene | 0.0002 | 0.0010 |
| | | | Xylenes | 0.0001 | 0.0003 |
| | | | Formaldehyde | 0.0081 | 0.0356 |
| | | | Total HAP | 0.04 | 0.18 |

The proposed change results in permitted potential emissions changes of a decrease of 0.80 tpy $NO_X$, an increase of 4.09 tpy CO, and an increase of 1.11 tpy VOC.

## REGULATORY APPLICABILITY

The following state and federal regulations were reviewed for the proposed modifications addressed in permit application R13-3030A.

State Regulations:

45CSR13 PERMITS FOR CONSTRUCTION, MODIFICATION, RELOCATION AND OPERATION OF STATIONARY SOURCES OF AIR POLLUTANTS, NOTIFICATION REQUIREMENTS, ADMINISTRATIVE UPDATES, TEMPORARY PERMITS, GENERAL PERMITS, PERMISSION TO COMMENCE CONSTRUCTION, AND PROCEDURES FOR EVALUATION

The applicant has met the requirements of 45CSR13 for the modification permit that they applied for by placing a Class I legal notice in *The Beckley Newspapers* on July 21, 2014, providing a complete permit application, and paying the required $1,000 application fee and $2,500 NESHAP fee.

Federal Regulations:

40CFR60, Subpart JJJJ — STANDARDS OF PERFORMANCE FOR STATIONARY SPARK IGNITION INTERNAL COMBUSTION ENGINES

The Ford ESG-642 59.4 HP natural gas generator engine is subject to this subpart since this non-emergency generator commenced construction after June 12, 2006 and is directed by 40 CFR 63, Subpart ZZZZ to comply with the applicable new source requirements of Subpart JJJJ. However, due to the manufacturing date of this engine (10/17/2006), it was found not to be subject to any of the emission limitations under Subpart JJJJ because it was manufactured before July 1, 2008. This is in accordance with 40 CFR § 60.4230(a)(4)(iii) for engines with a maximum engine power less than 500 Hp.

40 CFR 60, Subpart OOOO — STANDARDS OF PERFORMANCE FOR CRUDE OIL AND NATURAL GAS PRODUCTION, TRANSMISSION AND DISTRIBUTION

The Ford Model ESG-642 engine is a generator engine and not a compressor engine. It is therefore not an affected facility under this subpart and not subject to this subpart.

40 CFR 63, Subpart ZZZZ — NATIONAL EMISSION STANDARDS FOR HAZARDOUS AIR POLLUTANTS FOR STATIONARY RECIPROCATING INTERNAL COMBUSTION ENGINES

The Ford ESG-642 59.4 HP natural gas generator engine is subject to this subpart as a new non-emergency engine because it was constructed after June 12, 2006. As a new engine, it satisfies the requirements of Subpart ZZZZ by following the requirements of 40 CFR 60, Subpart JJJJ in accordance with 40 CFR § 63.6590(c)(1) and the definition of a new area source under 40 CFR § 63.6590(a)(2)(iii).

## TOXICITY OF NON-CRITERIA REGULATED POLLUTANTS

There are no new hazardous pollutants associated with this permit modification.

## AIR QUALITY IMPACT ANALYSIS

The proposed changes in this Class II Administrative Update permit application do not meet the definition of a major modification according to the definitions in 45CSR14 and 45CSR19; therefore, modeling is not required for this permit application.

## MONITORING OF OPERATIONS

The new generator engine will be required to monitor the engine hours of operation, the fuel throughput, and the planned and unplanned maintenance of the engine.

## CHANGES TO PERMIT R13-3030

- General changes in the permit to reflect the current permit revision
- 1.0 - updated the emission units table as shown in the process description section of this evaluation
- 4.1.2 - revised the requirement to reflect engine 3S and delete the reference to engine 2S that is being replaced.
- Clarified 4.1.3, 4.4.4, and 4.4.5 now only applies to existing engine 1S
- Inserted requirements 4.1.5 and 4.1.6 for engine 3S
- Added engine 3S to requirement 4.2.1 and 4.2.2
- Added recordkeeping requirements 4.4.6 and 4.4.7

## RECOMMENDATION TO DIRECTOR

It is recommended that permit modification R13-3030A be granted to CNX Gas Company, LLC; Rowland 303B Compressor Station located in Dameron, Raleigh County, WV. Based on the information provided in the application, CNX Gas will be in compliance with all applicable state and federal regulations associated with this modification.

Laura M. Jennings
Permit Engineer

Date